



# NORLITE, LLC

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April 29, 2014

Ms. Nancy Baker  
Deputy Regional Permit Administrator  
New York State Department of Environmental Conservation  
Region 4  
1130 North Westcott Road  
Schenectady, NY 12306-2014

RETURN RECEIPT REQUESTED VIA EMAIL

Mr. Kenneth Eng  
Air Compliance Branch  
United States Environmental Protection Agency  
Region 2  
290 Broadway  
New York, NY 10007-1866

RETURN RECEIPT REQUESTED VIA EMAIL

Re: Norlite Corporation-MACT Excessive Exceedances Report  
Kiln 1: 03/26/14 – 04/29/14  
Kiln 2: 03/26/14 – 04/29/14

Dear Sir/Madam:

In accordance with 40 CFR 63.1206(c)(3)(vi), the Norlite, LLC (Norlite) is submitting an "Excessive Exceedance Report" for the timeframe of 03/26/14 thru 04/29/14. The attached document explains each of the "malfunctions" for Kilns One and Two.

The results of the investigation concluded a majority of the waste feed cutoffs were a result of the span limit associated with the stack gas flow monitor. The stack gas cutoffs were attributed to water droplets from the Mist Pad contacting the stack gas probe and causing the probe to fault. Attempts were made to adjust the ID fan speed to combat the water droplet movement without significant success. On April 24, 2014, Kiln 2 was brought down for Mist Pad repair, scrubber cleaning, and baghouse bag inspection which rectified the source of the water droplets. On April 18, 2014, Norlite placed the Departmental approved Optical Flow Sensor on Kiln 1 into certified operation. Since April 18, 2014, there have been no stack gas related cutoffs on Kiln 1. The Optical Flow Sensor has remained in steady operation without any occurrences of upsets.

Norlite has been working to resolve stack gas span cutoffs in general for almost two years. Norlite has been working with the DEC to install a new optical flow technology to monitor stack gas flow rate. A test unit has been installed on Kiln 1 and RATA tested on November 26, 2013. The final RATA Testing report was submitted along with a proposal for implementing official use of the unit to the DEC on December 24, 2013. Norlite prepared and submitted a permit modification request to the Department on March 25, 2014 and received approval for the permit modification on April 16, 2014. On April 18, 2014 at 1:00 PM, Norlite placed the Optical Flow Sensor for Kiln 1 into certified operation. The previous stack gas flow rate measuring technology has remained in place for data collection but is no longer part of the AWFCO system. Since receiving approval for the Kiln 1 permit modification, Norlite has placed an order for the Kiln 2 Optical Flow Sensor with an installation date the week of May 12, 2014. At this point, Norlite plans to conduct RATA testing on the Kiln 2 Optical Flow Sensor the week of May 27, 2014. Once the RATA test has been completed and passing results are obtained, Norlite will prepare a permit modification similar to the Kiln 1 permit modification for submittal and approval for Kiln 2.



## NORLITE, LLC

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Norlite has been working with the DEC to improve LGF delivery and handling at the kilns to address these types of cutoffs. In April 2013, the DEC conditionally approved Norlite's plan to remove the minimum LGF Line Pressure requirement, allow a positive displacement pump to be used for fuel flow control, and allow the use of a recirculation line for use during times when off LGF. The DEC also requested a six month study be conducted without a minimum LGF Line Pressure requirement. The study was started on May 01, 2103 and completed on October 31, 2013. Norlite conducted an extensive search for a positive displacement pump which would allow variable speed control, have tight pump tolerance, and have suitable reliability for long term use. The results of the six month study which summarized over 4 million lines of operational data between the two kilns was submitted to the DEC on December 5, 2013. Based from the results of the six month study, Norlite feels the data supports the removal of the minimum LGF Line Pressure requirement. Norlite has concluded that a positive displacement pump which meets all the needed criteria does not exist. As stated previously, Norlite has acquired the assistance of a process engineering firm to assist in the search for a suitable positive displacement pump and conduct an overall review of the entire kiln feed system to provide a proposal for improving the kiln fuel feed system. The process engineering firm has been supplied with facility drawings, had several discussions with Norlite personnel, and taken a facility tour to better understand the facility operations as they relate to fuel delivery at the kilns. Norlite submitted a proposal provided by SPEC Engineering to the DEC on December 31, 2013 for review and approval. The proposal was to use an automated control loop to control pressures and fuel flow rates at the kilns. On January 13, 2014, the DEC approved the overall concept of the proposal with the requirement that additional engineering specifications be provided by certain dates for ultimate approval of the entire project.

Norlite and SPEC Engineering have completed an extensive hydraulic study of the entire LGF Fuel delivery system to ensure that proper velocities can be maintained throughout the piping system to prevent material buildup and keep the LGF homogeneously mixed. Norlite and SPEC Engineering have also meet with the DEC or spoke with the DEC on the phone several times to go over the hydraulic study as well as keep the Department up to date on the overall progress of the project. Norlite and SPEC Engineering are in the final phase of the engineering design of the overall kiln fuel delivery system, including 3D drawings of the piping to help visualize the overall project. Norlite and SPEC have confirmed their commitment to ensuring the kiln fuel delivery system operates as expected with as few troubleshooting issues as possible. For this to occur, additional engineering has been needed during the current design phase. Norlite met with the DEC in early April to go over the fuel piping layout and other related engineering design aspects. Norlite and SPEC will be finalizing the engineering shortly for submittal to the Department for review and approval. When the Department reviews the engineering design, Norlite will continue with procurement and installation

All of the malfunctions that occurred were consistent with our Startup, Shutdown and Malfunction Plan (SSMP). As approved by the NYSDEC on February 6, 2006, these reports are being sent electronically.



## NORLITE, LLC

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Should you have any questions regarding this letter, please contact me at (518) 235-0401 or email at: [tom.vanvranken@tradebe.com](mailto:tom.vanvranken@tradebe.com).

Sincerely,

*Thomas Van Vranken*

Thomas Van Vranken  
Environmental Manager

### Attachments

ecc: Don Spencer, NYDEC – R4 w/attachments  
Thomas Killeen, NYSDEC – CO w/attachments  
Joseph Hadersbeck, NYSDEC – R4w/attachments  
Jim Quinn, NYSDEC – R4 w/attachments  
Tita LaGrimas – Tradebe



NORLITE, LLC  
MACT EXCEEDANCE REPORT - KILN 1  
03/26/14 - 04/29/14

Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
3/28/2014	10:33:51	3/28/2014	11:10:07	0:36:16	130	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The ID Fan Speed Was Decreased to Help Prevent Water Droplets From Hitting the Probe
3/28/2014	12:31:18	3/28/2014	12:31:56	0:00:38	131	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The ID Fan Speed Was Decreased to Help Prevent Water Droplets From Hitting the Probe
4/5/2014	10:23:44	4/5/2014	10:24:09	0:00:25	132	Malfunction	Instantaneous Upper instrument Setpoint Reached for Scrubber pH Span due to the pH Sampling Loop Being Partially Plugged With Soda Ash Build Up	Scrubber pH	Span	After Troubleshooting the pH Probes, I&E Determined the Sample Loop Was Plugged and Then Cleared It
4/5/2014	12:53:48	4/5/2014	12:54:07	0:00:19	133	Malfunction	Instantaneous Upper instrument Setpoint Reached for Scrubber pH Span due to the pH Sampling Loop Being Partially Plugged With Soda Ash Build Up	Scrubber pH	Span	After Troubleshooting the pH Probes, I&E Determined the Sample Loop Was Plugged and Then Cleared It
4/7/2014	22:42:49	4/7/2014	22:43:42	0:00:53	134	Malfunction	Operators Were Controlling Flow Rate Using Valves Which Allowed A Surge to Occur Causing the Instantaneous Upper Instrument Setpoint to be Reached for LGF Flow Span	LGF Flow		Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements
4/9/2014	3:40:59	4/9/2014	3:42:20	0:01:21	135	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The ID Fan Speed Was Decreased to Help Prevent Water Droplets From Hitting the Probe
4/9/2014	22:36:36	4/9/2014	22:36:59	0:00:23	136	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Scrubber pH Span Due to the pH Probe Being Dirty	Scrubber pH	Span	I&E Cleaned the Probe and Recalibrated It for Proper Operation
4/10/2014	0:48:07	4/10/2014	0:48:25	0:00:18	137	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Scrubber pH Span Due to the Recently Cleaned pH Probe Failing	Scrubber pH	Span	I&E Replaced the Failed Probe With A New Probe From A Different Lot
4/16/2014	2:57:22	4/16/2014	3:00:42	0:03:20	138	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The ID Fan Speed Was Decreased to Help Prevent Water Droplets From Hitting the Probe



NORLITE, LLC  
MACT EXCEEDANCE REPORT - KILN 2  
03/26/14 - 04/29/14

Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
4/3/2014	6:46:23	4/3/2014	6:47:11	0:00:48	172	Malfunction	The Operators Were Controlling Fuel Flow Using Valve Which Caused a Fuel Surge to Occur, Affecting the Chamber Differential Pressure System	Back Chamber Pressure, 1 Second Delay	Opl	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements
4/4/2014	1:14:28	4/4/2014	1:25:00	0:10:32	173	Malfunction	Operators Were Controlling Flow Rate Using Valves Which Allowed A Surge to Occur Causing the Instantaneous Upper Instrument Setpoint to be Reached for LGF Flow Span	LGF Flow	Span	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements
4/7/2014	20:14:27	4/7/2014	20:17:45	0:03:18	174	Malfunction	The Operators Were Controlling Fuel Flow Using Valve Which Caused a Fuel Surge to Occur, Affecting the Chamber Differential Pressure System	Back Chamber Pressure, 1 Second Delay	Opl	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements
4/10/2014	19:03:26	4/10/2014	19:18:10	0:14:44	175	Malfunction	Operators Were Controlling Flow Rate Using Valves Which Allowed A Surge to Occur Causing the Instantaneous Upper Instrument Setpoint to be Reached for LGF Flow Span	LGF Flow	Span	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements
4/10/2014	19:18:15	4/10/2014	19:19:18	0:01:03	176	Malfunction	Operators Were Controlling Flow Rate Using Valves Which Allowed A Surge to Occur Causing the Instantaneous Upper Instrument Setpoint to be Reached for LGF Flow Span	LGF Flow	Span	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements
4/11/2014	5:24:12	4/11/2014	5:24:44	0:00:32	177	Malfunction	The Operators Were Controlling Fuel Flow Using Valve Which Caused a Fuel Surge to Occur, Affecting the Chamber Differential Pressure System	Back Chamber Pressure, 1 Second Delay	Opl	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements
4/11/2014	5:26:20	4/11/2014	7:06:33	1:40:13	178	Malfunction	The Operators Were Controlling Fuel Flow Using Valve Which Caused a Fuel Surge to Occur, Affecting the Chamber Differential Pressure System	Back Chamber Pressure, 1 Second Delay	Opl	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements
4/16/2014	6:29:01	4/16/2014	6:34:00	0:04:59	179	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The ID Fan Speed Was Decreased to Help Prevent Water Droplets From Hitting the Probe
4/19/2014	14:22:31	4/19/2014	16:01:21	1:38:50	180	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The ID Fan Speed Was Decreased to Help Prevent Water Droplets From Hitting the Probe
4/21/2014	12:08:02	4/21/2014	12:37:02	0:29:00	181	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The ID Fan Speed Was Decreased to Help Prevent Water Droplets From Hitting the Probe



NORLITE, LLC  
MACT EXCEEDANCE REPORT - KILN 2  
03/26/14 - 04/29/14

Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
4/23/2014	7:59:18	4/23/2014	8:51:44	0:52:26	182	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The Kiln Was Shutdown the Morning of 04/24/14 to Conduct Mist Pad Repair, Scrubber Cleaning, and Baghouse Inspection
4/23/2014	22:28:42	4/23/2014	22:29:16	0:00:34	183	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The Kiln Was Shutdown the Morning of 04/24/14 to Conduct Mist Pad Repair, Scrubber Cleaning, and Baghouse Inspection
4/23/2014	23:18:55	4/23/2014	23:19:34	0:00:39	184	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The Kiln Was Shutdown the Morning of 04/24/14 to Conduct Mist Pad Repair, Scrubber Cleaning, and Baghouse Inspection
4/23/2014	23:28:32	4/23/2014	23:28:56	0:00:24	185	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The Kiln Was Shutdown the Morning of 04/24/14 to Conduct Mist Pad Repair, Scrubber Cleaning, and Baghouse Inspection
4/24/2014	0:00:49	4/24/2014	0:01:17	0:00:28	186	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The Kiln Was Shutdown the Morning of 04/24/14 to Conduct Mist Pad Repair, Scrubber Cleaning, and Baghouse Inspection
4/24/2014	0:11:47	4/24/2014	0:12:12	0:00:25	187	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The Kiln Was Shutdown the Morning of 04/24/14 to Conduct Mist Pad Repair, Scrubber Cleaning, and Baghouse Inspection
4/24/2014	0:18:18	4/24/2014	0:18:46	0:00:28	188	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The Kiln Was Shutdown the Morning of 04/24/14 to Conduct Mist Pad Repair, Scrubber Cleaning, and Baghouse Inspection
4/24/2014	0:22:58	4/24/2014	0:23:40	0:00:42	189	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The Kiln Was Shutdown the Morning of 04/24/14 to Conduct Mist Pad Repair, Scrubber Cleaning, and Baghouse Inspection
4/24/2014	1:45:45	4/24/2014	1:46:21	0:00:36	190	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The Kiln Was Shutdown the Morning of 04/24/14 to Conduct Mist Pad Repair, Scrubber Cleaning, and Baghouse Inspection



NORLITE, LLC  
MACT EXCEEDANCE REPORT - KILN 2  
03/26/14 - 04/29/14

Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
4/24/2014	1:48:06	4/24/2014	1:48:43	0:00:37	191	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The Kiln Was Shutdown the Morning of 04/24/14 to Conduct Mist Pad Repair, Scrubber Cleaning, and Baghouse Inspection
4/24/2014	1:54:06	4/24/2014	1:54:47	0:00:41	192	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The Kiln Was Shutdown the Morning of 04/24/14 to Conduct Mist Pad Repair, Scrubber Cleaning, and Baghouse Inspection
4/24/2014	2:16:56	4/24/2014	2:59:16	0:42:20	193	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The Kiln Was Shutdown the Morning of 04/24/14 to Conduct Mist Pad Repair, Scrubber Cleaning, and Baghouse Inspection